



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Cooperating

-0-

A Preliminary Report
of
Data Secured in 1941, 1942, and 1943
on the
FARM ACCOUNTING ROUTE

in

NICOLLET COUNTY, MINNESOTA

By
S. A. Engene and G. A. Pond
V. G. Dose, Routeman

-0-

Mimeographed Report No. 146
Division of Agricultural Economics
University Farm
St. Paul, Minnesota
May, 1944

INDEX

	<u>Page</u>
Introduction.	1
Summary of farm inventories	2
Summary of farm earnings.	3
Family living from the farm	4
Household and personal expenses	5
Monthly and annual precipitation and temperature.	6
Distribution of acres in farm	7
Costs and returns per acre for mixtures of oats and barley.	8
Costs and returns per acre for oats-and-barley.	9
Costs and returns per acre for winter wheat and flax.	10
Costs and returns per acre for canning peas and sweet corn.	11
Costs per acre for husked corn and silage corn.	12
Costs per acre for alfalfa and other tame hay	13
Costs per acre for phalaris and wild hay.	14
Costs per acre for sudan grass pasture and small grain pasture.	15
Comparative yields and costs of producing feed nutrients.	16
Comparative returns per acre for cash crops	17
High yields give low costs per unit	17
Amounts of labor and power used per acre for crop operations.	18-19
Summary of amount of livestock.	20
Costs and returns per dairy cow	21
Costs and returns per head of other dairy cattle.	22
Costs and returns per cow for all dairy cattle.	23
Cost per farm for keeping a bull.	24
Costs and returns per 100 pounds hogs produced.	25
Costs and returns per hen	26
Cost per head for work horses	27
Costs and returns per head for colts.	27
Cost per hour for tractor operation	28
Cost of operating automobiles	29
Cost of operating trucks.	29
Utilization and source of man labor	30
Seasonal distribution of man labor by source.	31
Seasonal distribution of man labor by enterprise.	31

Introduction

A study of the organization and management of a selected group of farms in Nicollet County was started on January 1, 1941. The objectives of this study are (a) to compare the types of farm organization and the methods of operation used on dairy farms in southeastern Minnesota and to determine their adaptation and relative profitability and (b) to determine the factors of cost involved in the production of crops and livestock in this area with particular reference to dairy products. Some of the information gained from work done in 1941, 1942, and 1943 is presented in this report.

This study is being conducted under the supervision of the Division of Agricultural Economics of the University of Minnesota in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture. Farms which were representative of the better managed farms in the area were chosen with the aid of the county agricultural agent, Mr. E. M. Nelson and by his successor, F. E. Wetherill. These farmers keep a complete record of cash receipts and expenses, a daily record of the labor used on each crop and class of livestock, and a record of farm produce used in the house. These records are checked at least twice per month by a fieldman and supplemented with significant facts about the farm business*. Completed records were obtained from 26 farmers in 1941, 27 in 1942, and 24 in 1943. This report on earnings, crop and livestock returns, and other information for 1941, 1942 and 1943 was prepared from these records.

Nicollet County lies in the south central part of the state. The topography is gently rolling to level, with some hilly land along the Minnesota River. The soils (Clarion-Webster) are typical of a large part of south central Minnesota. On the higher, gently rolling land the soils are very dark grayish brown loams with heavy subsoils carrying a small amount of stone while on the lower, level land the surface is black and heavier. These soils rank with the best for corn production. The normal rainfall is 28 inches, 75 per cent of which falls during the months of April to September, inclusive. The average growing season (last killing frost in the spring to first killing frost in the fall) is 150 days. About three-fourths of the farmers' income is obtained from the sale of livestock and livestock products and one-fourth from the sale of crops.

The farms studied are somewhat larger than the average of all farms in Nicollet County, but the crops grown and livestock kept are typical.

Financial Summaries

Summaries of inventories, earnings, family living from the farm, and household and personal expenses are presented in Tables 1 through 4. The inventories and earnings were computed on a full owner basis; that is, the assets, expenses and receipts of the landlord were included. Earnings were high in each of these years, due to high wartime prices and a large volume of production. An unusually wet spring in 1943 reduced yields and earnings.

* F. E. Wetherill served as fieldman from January 1, 1941 to March 1, 1943; C. J. Hemming from April 1, 1943 to October 1, 1943; and V. G. Dose since October 1, 1943.

Table 1. Summary of Farm Inventories, Nicollet County

Items	1941		1942		1943	
	Average 3 years	Avg. of 26 farms	Avg. of 27 farms	Avg. of 24 farms	5 high profit farms	5 low profit farms
Size of farm (acres)	216	212	217	219	302	193
Size of business (work units)	622	605	634	627	853	517
Beginning of the Year						
Productive lvstk. (total)	\$3569	\$2655	\$3445	\$4606	\$7952	\$3585
Dairy & dual purpose cows	1117	1047	1151	1153	1590	1081
Other dairy & dual pur.cattle	650	576	619	754	793	730
Beef cattle (incl.feeders)	306	300	299	319	896	-
Hogs	1306	564	1193	2162	4504	1488
Sheep (incl. feeders)	34	29	35	36	-	26
Poultry (incl. turkeys)	156	139	148	182	169	260
Horses	349	345	366	335	331	273
Crop, seed, and feed	2246	2143	1989	2606	3569	1466
Mach. & equipment (total)	2873	2613	2952	3055	4283	2407
Power mach. (f. share)	1026	919	1061	1099	1424	908
Crop & gen. mach. (f. share)	1377	1277	1438	1416	2128	1043
Livestock equip. & supplies	470	417	453	540	731	456
Buildings, fences, etc.	6488	5985	6551	6928	9095	5021
Land	8296	8072	8305	8512	8776	7254
Total farm capital	\$23,821	\$21,813	\$23,608	\$26,042	\$34,006	\$20,006
End of the Year						
Productive lvstk. (total)	\$4039	\$3338	\$4588	\$4190	\$6472	\$3306
Dairy & dual purpose cows	1155	1101	1145	1220	1737	962
Other dairy & dual pur.cattle	774	612	819	891	1077	764
Beef cattle (incl.feeders)	233	274	283	141	256	-
Hogs	1650	1161	2116	1671	3210	1137
Sheep (incl. feeders)	33	35	32	32	-	5
Poultry (incl. turkeys)	194	155	193	235	192	438
Horses	329	365	350	273	293	162
Crop, seeds, and feed	2566	2070	2748	2878	4475	1525
Mach. & equipment (total)	3040	2886	3136	3099	4381	2366
Power mach. (f. share)	1068	1025	1114	1066	1474	916
Crop & gen. mach.	1434	1407	1485	1411	2097	959
Livestock equip. & supplies	538	454	537	622	810	491
Buildings, fences, etc.	6618	6123	6682	7049	9499	4928
Land	8296	8072	8305	8512	8776	7254
Total farm capital	\$24,888	\$22,854	\$25,809	\$26,001	\$33,896	\$19,541

Table 2. Summary of Farm Earnings, Nicollet County

Items	1941		1942		1943	
	Average 3 years	Avg. of 26 farms	Avg. of 27 farms	Avg. of 24 farms	5 high profit farms	5 low profit farms
FARM EXPENSES						
Horses bought	\$ 38	\$ 55	\$ 18	\$ 42	\$ -	\$ 17
Dairy & milk & beef cows bought	82	80	75	90	85	193
Other dairy cattle bought	111	51	146	135	79	148
Beef cattle bot.(incl.feeders)	103	169	139	-	-	-
Hogs bought	158	79	171	223	141	421
Sheep bought (incl. feeders)	24	26	21	26	-	7
Poultry bought (incl. turkeys)	95	72	81	131	80	234
Misc. crop expenses	246	182	229	326	498	409
Feed bought	1229	642	1295	1750	2088	2476
Power mach. (farm share)(new)	199	250	217	130	270	141
Power mach. (farm share)(upkeep)	448	404	435	504	643	486
Custom work hired	98	80	86	129	48	161
Crop and general mach. (new)	229	307	205	176	168	182
Crop and general mach. (upkeep)	80	59	79	102	103	132
Livestock equipment (new)	129	86	147	154	150	117
Livestock equipment (upkeep)	47	24	44	73	54	129
Misc. livestock expense	137	109	137	164	147	321
Building & fencing (new)	315	269	332	344	527	152
Building & fencing (upkeep)	165	144	137	215	281	199
Hired labor	409	279	422	525	577	484
Taxes	207	210	209	202	241	179
General farm	62	53	57	78	66	106
(1) Total farm purchases	\$4611	\$3630	\$4682	\$5520	\$6246	\$6694
(2) Decrease in farm capital	-	-	-	41	110	465
(3) Board furnished hired labor	141	98	153	171	234	170
(4) Interest on farm capital	1218	1117	1235	1301	1698	989
(5) Unpaid family labor	434	384	438	481	768	410
(6) Total farm expenses	\$6404	\$5229	\$6508	\$7514	\$9056	\$8728
FARM RECEIPTS						
Horses sold	\$ 31	\$ 14	\$ 20	\$ 60	\$ 15	\$ 85
Dairy & milk & beef cows sold	373	299	410	409	332	638
Dairy products sold	1495	1269	1473	1743	2730	1499
Other dairy & milk & beef cat. sold	437	336	492	485	234	592
Beef cattle sold (incl. feeders)	426	452	459	369	1148	-
Hogs sold	3232	1957	3446	4294	7523	2975
Sheep & wool sold(incl.feeders)	47	34	49	57	-	82
Poultry sold (incl. turkeys)	198	167	163	263	156	326
Eggs sold	693	399	654	1016	857	1232
Crop sold - corn	207	161	290	171	237	78
Crop sold - small grain	343	219	358	452	444	432
Other crops sold	226	201	317	161	249	170
Machinery & equip. sold	102	134	66	108	113	314
Misc.	80	93	101	48	12	170
Income from work off the farm	91	55	91	128	52	82
Agricultural adjustment payments	324	394	351	226	352	157
(7) Total farm sales	\$8305	\$6184	\$8740	\$9990	\$14,454	\$8832
(8) Increase in farm capital	1067	1041	2201	-	-	-
(9) Family living from the farm	601	497	610	696	751	595
(10) Total farm receipts	\$9973	\$7722	\$11,551	\$10,686	\$15,205	\$9427
(6) Total farm expenses	6404	5229	6508	7514	9056	8728
(11) Operator's labor earnings	\$3569	\$2493	\$5043	\$3172	\$6149	\$699

Table 3. Family Living from the Farm, Nicollet County

Items	1941		1942		1943	
	Average of 3 years	Avg. of 26 farms	Avg. of 27 farms	Avg. of 24 farms	5 high profit farms	5 low profit farms
No. of persons (family)	3.5	3.7	3.5	3.4	3.8	2.7
Adult equiv. (other)	.4	.4	.5	.4	.5	.5
Whole milk	888 qts.	963	860	840	962	382
Skim milk	527 "	409	544	627	379	833
Cream	323 pts.	307	318	344	583	223
Eggs	180 doz.	167	187	185	161	175
Cattle	456 lbs.	360	389	618	428	930
Hogs	569 lbs.	546	613	548	602	559
Sheep	-	-	-	-	-	-
Poultry	135 lbs.	138	139	129	121	181
Potatoes	16 bu.	15	17	16	14	11
Farm fuel	7 cds.	8	6	7	7	8
Whole milk	\$34.22	\$29.21	\$32.57	\$40.89	\$45.71	\$18.20
Skim milk	2.55	1.48	2.64	3.54	2.15	4.71
Cream	48.61	38.89	45.29	61.66	102.94	43.98
Farm made butter	.01	.03	-	-	-	-
Eggs	51.63	34.85	53.44	66.59	55.89	61.33
Cattle	41.37	29.66	36.24	58.21	41.40	84.60
Hogs	65.57	44.95	76.83	74.93	81.45	75.95
Sheep	-	-	-	-	-	-
Poultry	21.68	16.85	22.28	25.90	24.16	36.42
Potatoes	18.20	11.76	18.40	24.43	21.03	16.01
Vegetables and fruit	43.12	29.62	49.96	49.79	50.00	49.00
Farm fuel	45.58	48.65	43.71	44.38	48.20	49.60
Rental value of house	228.72	210.83	228.91	246.42	277.75	155.00
Total	\$601.26	\$496.78	\$610.27	\$696.74	\$750.68	\$594.80

Table 4. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, Nicollet County

Items	Average 3 years	1942		1943		
		Avg. of 23 farms	Avg. of 21 farms	Avg. of 18 farms	5 High profit farms	4 Low profit farms
No. of persons - family	4.3	4.7	4.2	4.1	5.0	3.4
No. of persons (Family adult equivalent (Other	3.4 .5	3.6 .5	3.3 .5	3.2 .5	3.8 .5	2.9 .5
Food and meals bought	\$400	\$363	\$423	\$415	\$410	\$378
Operating and supplies	111	92	105	135	196	157
Clothing and clothing materials	201	160	217	225	185	123
Personal care, personal spending	75	79	88	58	50	87
Furnishings and equipment	110	155	108	68	66	39
Education, recreation & development	81	88	74	81	70	16
Medical care and health insurance	92	87	102	87	78	126
Church, welfare, gifts & inc. tax	170	89	108	314*	435*	231*
Personal share of auto expense	110	147	120	62	76	85
H.H. share of elec. & gas eng. exp.	43	44	43	45	47	49
H.H. & pers. share of new auto, gas engine	48	98	17	29	99	-
Life insurance & other investment	290	67	213	588	1084	357
Total H.H. & pers. cash expense	\$1731	\$1469	\$1618	\$2107	\$3796	\$1669
Food furnished by farm	310	238	325	365	366	355
Fuel furnished by farm	43	51	39	40	48	46
House rental	227	213	229	239	278	153
Total cash expense & perquisites	\$2311	\$1971	\$2211	\$2751	\$3488	\$2213

* Including \$191 for income taxes for all farms, \$322 for the 5 high profit farms and \$62 for the 4 low profit farms.

Crop Summaries

A summary of the crops grown on these farms is presented in Table 6. Flax, barley, oats, corn, and alfalfa were raised on most farms. The other crops were raised on only a limited number of farms.

Summaries of the costs and returns for each of the principal crops grown on these farms are presented in Tables 7 thru 15. The summaries provide a basis for comparing the relative costs and returns for different crops. An accurate knowledge of the costs and returns from each crop will help farmers to plan more profitable crop rotations. These comparisons will be even more valuable to a farmer if he will substitute in the summaries the yields or the yields and costs that will apply to his farm.

In the preparation of these summaries, man labor was charged at 25 cents per hour in 1941, 30 cents in 1942, and 40 cents in 1943. Horse work and tractor use on each farm were charged at cost. Seeds were charged at cost if purchased, otherwise at farm price plus the cost of cleaning. Manure was charged at 50 cents per ton plus the cost of application. Forty per cent of the total manuring charge was allocated to the land covered and the balance was prorated on an acre basis to the remaining land normally receiving manure. Uniform charges per acre for all farms were made for seed for hay crops, for the use of machinery, and for the use of the land. The costs of power and of rig operators for threshing were included with "threshing", but the costs of power and rig operators for all other harvesting operations, as silo filling, were included with the labor and power costs.

The costs presented are relative rather than absolute costs. Many of the cost items, such as farmer's own labor and the use of his own land, machinery, and equipment do not represent actual current "out-of-pocket" cash expense. For purposes of comparison it was necessary to estimate their value. Care must, therefore, be used in interpreting these data; but since the costs have been calculated on the same basis for all crops, they can be used in comparisons between crops.

Variations in weather conditions from year to year affect both costs and returns for crops. The precipitation and average temperature by months at the two nearest weather reporting stations, St. Peter and New Ulm, are presented in Table 5.

Table 5. Monthly and Annual Precipitation and Temperature, Average of Data for St. Peter and New Ulm, Nicollet County

	Precipitation (Inches)				Temperature (Degrees)			
	1943		1942	1941	1943		1942	1941
	Total	Dep.*	Dep.*	Dep.*	Total	Dep.*	Dep.*	Dep.*
Jan.	1.88	+0.88	-0.89	-0.32	6.1	-8.4	+5.8	+4.3
Feb.	.98	+0.10	-0.54	+0.48	17.5	+0.4	+2.8	-1.6
Mar.	1.34	0.00	+2.25	+0.02	25.0	-6.3	+4.2	-2.7
Apr.	.74	-1.33	-0.15	+0.68	45.5	-1.3	+5.3	+5.1
May	8.25	+4.76	+1.08	+1.16	54.8	-3.2	-2.4	+5.4
June	6.06	+1.38	-1.02	+1.10	69.8	+1.8	-1.5	-0.2
July	8.40	+4.86	-0.32	-0.41	74.0	+1.4	-1.6	+1.0
Aug.	4.57	+1.06	-1.88	-2.72	71.0	+0.6	+0.4	+2.2
Sept.	2.35	-1.27	+3.92	+0.58	56.6	-5.1	-4.8	+2.4
Oct.	1.62	-0.56	-1.94	+3.59	47.9	-0.9	+0.4	+1.7
Nov.	1.96	+0.66	-0.56	-0.20	28.1	-4.9	+0.3	+2.5
Dec.	.03	-0.78	+0.42	+0.06	21.6	+1.4	-4.7	+7.3
Total	38.18	+9.76	+0.36	+4.02	43.2	-2.0	+0.4	+2.3

* Departure from normal.

Table 6. Distribution of Acres in Farm, Nicollet County

Crop	Number growing this crop			Avg. of 3 years	1941	1942	1943		
	1941	1942	1943		Avg. of 26 farms	Avg. of 27 farms	Avg. of 24 farms	5 high profit farms	5 low profit farms
Canning peas	2	4	3	1.6	.8	2.5	1.7	2.0	-
Flax	19	21	20	12.2	11.3	11.5	14.0	19.1	12.7
Barley	20	23	11	13.5	15.9	17.4	7.3	11.7	5.4
Winter wheat	11	15	10	7.3	6.9	8.6	6.4	7.7	6.1
Spring wheat	7	2	2	.9	1.9	.3	.4	-	-
Oats and barley	6	13	11	8.3	5.3	9.5	10.0	11.1	5.0
Oats and wheat	2	3	2	1.2	.7	1.9	1.0	-	1.4
Oats	25	20	23	22.5	26.3	17.2	23.9	36.7	23.0
Rye	3	3	3	1.7	1.4	1.9	1.7	2.6	4.9
Miscellaneous	2	4	6	.9	.3	.8	1.6	2.1	1.1
Total small grain & peas				70.1	70.8	71.6	68.0	93.0	59.6
Sugar beets, hybrid seed corn, potatoes & truck crops	21	21	20	2.9	2.2	3.4	3.1	7.8	1.1
Sweet corn	5	7	7	3.4	2.8	2.9	4.7	7.0	3.5
Corn grain	26	27	24	38.1	31.9	39.3	43.0	64.2	28.8
Corn silage	22	24	20	8.6	7.0	7.8	10.9	14.9	6.5
Total cultivated				53.0	43.9	53.4	61.7	93.9	39.9
Alfalfa hay	24	25	24	14.4	14.7	16.1	12.3	16.2	8.6
Red clover hay	2	0	4	.5	.7	-	.7	2.1	1.0
Soybean hay	4	1	2	.2	.4	-	.3	.4	-
Mixed leg. & non-legumes	8	8	8	3.6	3.4	3.0	4.4	2.3	9.4
Legumes for seed	1	1	1	1.2	1.8	1.5	.2	-	-
Timothy and/or brome	11	10	8	2.4	2.9	2.2	2.3	4.1	-
Other annual hay	3	4	4	.8	.4	1.5	.5	1.3	-
Total tillable land in hay				23.1	24.3	24.3	20.7	26.4	19.0
Alfalfa pasture	9	11	13	1.6	1.1	1.0	2.6	4.9	3.2
Sweet clover pasture	9	6	6	2.2	2.7	2.1	1.9	2.4	1.8
Mix. inc. alf., sw.clover	4	6	4	1.6	1.4	1.9	1.4	1.7	-
Other legumes & mixtures	2	2	5	.9	.3	.3	2.0	1.9	2.1
Sudan grass or rape past.	12	6	7	2.5	3.9	2.0	1.6	-	1.8
Other tillable pasture	14	17	17	5.9	4.2	7.6	6.0	9.8	2.6
Total till. land in pasture				14.7	13.6	14.9	15.5	20.7	11.5
Till. land not cropped	15	12	19	5.3	6.5	3.8	5.5	5.0	15.3
Total tillable land				166.2	159.1	168.0	171.4	239.0	145.3
Phalaris hay (non-till.)	5	6	6	1.2	1.1	1.3	1.3	.4	.8
Wild hay (non-tillable)	14	14	11	7.1	9.8	6.7	4.9	15.2	2.3
Non-tillable pasture	24	23	22	23.6	25.0	22.9	22.9	17.5	25.2
Timber (not pasture)	7	9	8	3.8	2.8	3.7	4.9	11.7	9.1
Road and waste				7.4	7.4	7.5	7.3	10.7	6.3
Farmstead				6.6	7.1	6.5	6.3	7.1	4.0
Total acres in farm				215.9	212.3	216.6	219.0	301.6	193.0
% land tillable				77.0	74.9	77.6	78.4	79.3	75.7

Table 7. Costs and Returns per Acre for Mixtures of Oats and Barley, Nicollet Co.

Items	Avg. of 3 years	1941	1942	1943		
		6 farms	13 farms	11 farms	3 low cost farms	3 high cost farms
Acres per farm	21.5	22.9	19.8	21.8	24.0	21.7
COSTS AND RETURNS:						
Man labor	\$2.30	\$2.09	\$2.22	\$2.60	\$2.63	\$2.16
Horse and tractor	2.33	2.46	1.96	2.57	2.11	2.95
Seed	1.69	1.49	1.60	1.99	2.10	2.14
Twine	.26	.19	.31	.27	.29	.13
Manure	1.67	1.82	1.37	1.81	1.39	2.49
Threshing	1.25	1.00	1.67	1.09	1.39	.81
Machinery	1.16	1.01	1.18	1.29	1.35	1.14
Operating costs	\$10.66	\$10.06	\$10.31	\$11.62	\$11.26	\$11.82
Land charge	5.00	5.00	5.00	5.00	5.00	5.00
Total costs	\$15.66	\$15.06	\$15.31	\$16.62	\$16.26	\$16.82
Crop value	17.42	10.18	23.13	18.96	30.07	6.70
Crop value less costs	\$ 1.76	\$-4.88	\$ 7.82	\$ 2.34	\$13.81	\$-10.12
Yield, bushels	33.8*	27.5*	50.0*	23.9*	38.3*	8.6*
Cost per bushel	\$.46	\$.55	\$.31	\$.70	\$.42	\$1.96
Average price for year	.52	.37	.46	.79	.79	.78
Amounts of labor, power, & materials:						
Before harvest:						
Man labor, hrs.	2.3	2.4	1.9	2.6	2.6	3.3
Horse work, hrs.	1.5	1.8	1.3	1.4	.9	3.8
Tractor use, hrs.	1.8	1.7	1.6	2.1	2.4	2.1
Harvest:						
Man labor, hrs.	5.1	6.0	5.5	3.9	4.0	2.1
Horse work, hrs.	3.9	5.3	4.1	2.4	2.5	2.0
Tractor use, hrs.	.8	.9	.8	.7	.7	.5
Total:						
Man labor, hrs.	7.4	8.4	7.4	6.5	6.6	5.4
Horse work, hrs.	5.4	7.1	5.4	3.8	3.4	5.8
Tractor use, hrs.	2.6	2.6	2.4	2.8	2.8	2.9
Thresh. time**	.41	.53	.44	.26	.27	.36
Seed, bushels	2.4	2.7	2.2	2.4	2.3	2.7
Twine, pounds	3.2	2.9	3.7	2.9	2.7	3.2

* At 40 pounds per bushel.

** Hours machine was operated.

Table 8. Costs and Returns per Acre for Oats and Barley, Nicollet County

Items	Oats						Barley					
	1941		1942		1943		1941		1942	1943		
	Avg. of 3 years	25 farms	20 farms	23 farms	5 low cost farms	5 high cost farms	Avg. of 3 years	20 farms	23 farms	11 farms	3 low cost farms	3 high cost farms
Acres per farm	25.0	27.4	23.2	24.4	24.6	22.1	18.9	20.0	20.4	15.9	11.5	11.7
COSTS AND RETURNS:												
Man labor	2.35	\$1.76	\$2.50	\$2.78	\$2.62	\$2.62	\$2.07	\$1.81	\$2.03	\$2.38	\$2.26	\$1.85
Horse and tractor	2.23	1.84	2.27	2.60	2.66	2.12	2.22	2.02	1.90	2.73	2.36	1.61
Seed	1.91	1.19	1.94	2.60	2.16	2.36	1.59	1.09	1.55	2.14	1.93	2.08
Twine	.28	.22	.30	.32	.33	.18	.26	.23	.27	.29	.40	.16
Manure	1.79	1.83	1.75	1.80	1.51	1.43	1.75	1.60	1.58	2.06	1.21	2.20
Threshing	1.22	.87	1.71	1.07	1.34	.56	.91	1.05	1.22	.46	.67	.12
Machinery	1.13	1.04	1.17	1.32	1.35	1.29	1.13	1.04	1.18	1.31	1.35	1.23
Operating costs	\$10.96	\$8.75	\$11.64	\$12.49	\$11.97	\$10.56	\$9.98	\$8.84	\$9.73	\$11.37	\$10.18	\$9.25
Land charge	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Total costs	\$15.96	\$13.75	\$16.64	\$17.49	\$16.97	\$15.56	\$14.98	\$13.84	\$14.73	\$16.37	\$15.18	\$14.25
Crop value	17.64	8.06	23.23	21.62	28.54	9.41	11.05	10.16	14.79	8.19	12.76	2.73
Crop value less costs	\$ 1.68	\$-5.69	\$6.59	\$4.13	\$11.57	\$-6.15	\$-3.93	\$-3.68	\$.06	\$-8.18	\$-2.42	\$-11.52
Yield, bushels	36.7	23.7	55.0	31.4	41.9	13.8	20.6	25.4	28.6	7.7	8.8	3.0
Cost per bushel	\$.43	\$.58	\$.30	\$.56	\$.41	\$ 1.13	\$.73	\$.54	\$.52	\$ 2.13	\$ 1.72	\$ 4.75
Average price for the year	.48	.34	.42	.69	.68	.68	.54	.40	.52	1.06	1.45	.91
Amounts of labor, power & materials												
Before harvest:												
Man labor, hrs.	2.4	2.2	2.6	2.4	2.2	2.9	2.2	1.9	2.1	2.6	2.4	2.0
Horse work, hrs.	1.7	2.5	1.5	1.2	1.4	.4	1.9	2.7	1.5	1.5	.9	2.6
Tractor use, hrs.	1.9	1.5	2.2	2.0	1.7	2.6	1.7	1.1	1.7	2.1	2.1	1.4
Harvest:												
Man labor, hrs.	5.0	4.8	5.7	4.6	4.3	3.7	4.5	5.4	4.7	3.4	3.2	2.6
Horse work, hrs.	4.2	4.7	4.4	3.4	3.8	2.1	4.0	5.8	3.7	2.5	2.0	1.6
Tractor use, hrs.	.7	.6	.9	.6	.5	.6	.6	.6	.7	.6	.6	.3
Total:												
Man labor, hrs.	7.4	7.0	8.3	7.0	6.5	6.6	6.7	7.3	6.8	6.0	5.6	4.6
Horse work, hrs.	5.9	7.2	5.9	4.6	5.2	2.5	5.9	8.5	5.2	4.0	2.9	4.2
Tractor use, hrs.	2.6	2.1	3.1	2.6	2.2	3.2	2.3	1.7	2.4	2.7	2.1	1.7
Threshing time*	.44	.45	.52	.36	.34	.35	.37	.44	.42	.24	.18	.31
Seed, bushels	2.7	2.8	2.8	2.5	2.6	2.3	2.1	2.0	2.0	2.2	2.2	2.5
Twine, pounds	3.1	2.8	3.7	2.9	2.8	1.5	3.0	3.0	3.3	2.8	3.4	2.0

* Hours machine was operated

Table 9. Costs and Returns for Winter Wheat and Flax, Nicollet County

Items	Winter Wheat					Flax						
	1941		1942		1943	1941		1942		1943		
	Avg. of 3 years	farms	farms	10 farms	3 low cost farms	3 high cost farms	Avg. of 3 years	farms	farms	20 farms	5 low cost farms	5 high cost farms
Acres per farm	15.8	16.3	15.4	15.8	26.6	12.2	15.5	15.4	14.6	16.6	13.1	17.3
COSTS AND RETURNS:												
Man labor	\$2.35	\$1.77	\$2.46	\$2.83	\$2.10	\$2.02	\$2.39	\$2.20	\$2.20	\$2.76	\$2.88	\$3.10
Horse and tractor	2.47	2.01	2.25	3.15	2.19	2.93	2.50	2.46	2.27	2.78	2.27	4.36
Seed	1.85	1.18	2.08	2.30	1.64	2.10	2.52	1.75	2.52	3.29	2.58	4.43
Twine	.22	.15	.26	.26	.17	.28	.12	.10	.05	.20	.29	.10
Manure	1.72	2.25	1.74	1.17	.78	.46	1.77	2.24	1.43	1.64	1.18	2.26
Threshing	1.12	.78	1.53	1.03	1.26	.82	1.02	1.04	.97	1.06	1.67	1.11
Machinery	1.25	1.03	1.16	1.55	1.29	1.29	1.17	1.03	1.17	1.31	1.29	1.27
Operating costs	\$10.98	\$9.17	\$11.43	\$12.29	\$9.43	\$9.90	\$11.49	\$10.82	\$10.61	\$13.04	\$12.16	\$16.63
Land charge	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Total costs	\$15.98	\$14.17	\$16.48	\$17.29	\$14.43	\$14.90	\$16.49	\$15.82	\$15.61	\$18.04	\$17.16	\$21.63
Crop value	16.19	8.98	26.29	13.30	17.63	5.43	16.29	13.05	18.15	17.63	30.25	6.67
Crop value less costs	\$.21	\$ -5.19	\$ 9.81	\$ -3.99	\$ 3.20	\$ -9.47	\$ -.20	\$ -2.77	\$ 2.54	\$ -.36	\$ 13.09	\$ -14.96
YIELD, bu.	15.2	9.9	25.2	10.6	14.1	4.3	7.2	7.7	7.9	6.1	10.5	2.3
Cost per bushel	\$1.05	\$1.43	\$.65	\$1.63	\$1.02	\$3.47	\$2.29	\$2.05	\$1.98	\$2.96	\$1.63	\$9.40
Average price for the year	1.07	.91	1.04	1.26	1.25	1.26	2.26	1.69	2.30	2.90	2.88	2.90
Amounts of labor, power & materials:												
Before harvest:												
Man labor, hrs.	2.5	2.1	2.3	3.1	1.8	2.3	2.7	3.1	2.5	2.6	2.1	3.4
Horse work, hrs.	1.6	2.0	2.1	.6	.7	.5	2.1	3.2	1.9	1.3	1.6	2.0
Tractor use, hrs.	2.1	1.6	1.7	2.9	1.6	2.1	2.1	2.2	2.0	2.1	1.6	2.7
Harvest:												
Man labor, hrs.	5.0	5.0	5.9	4.0	3.4	2.8	4.9	5.7	4.8	4.3	5.1	4.4
Horse work, hrs.	4.4	5.4	4.9	3.1	3.0	1.0	4.5	6.2	4.6	2.7	2.0	3.1
Tractor use, hrs.	.7	.5	1.1	.6	1.0	.6	.8	.7	.7	1.1	1.1	1.7
Total:												
Man labor, hrs.	7.5	7.1	8.2	7.1	5.2	5.1	7.6	8.8	7.3	6.9	7.2	7.8
Horse work, hrs.	6.0	7.4	7.0	3.7	3.7	1.5	6.6	9.4	6.5	4.0	3.6	5.1
Tractor use, hrs.	2.8	2.1	2.8	3.5	2.6	2.7	2.9	2.9	2.7	3.2	2.7	4.5
Threshing, time*	.45	.53	.49	.32	.32	.24	.64	.74	.66	.51	.32	7.9
Seed, bushels	1.7	1.5	1.7	2.0	1.4	.17	.8	.8	.8	.9	.8	1.3
Twine, pounds**	2.6	2.0	3.3	2.5	2.2	2.3	2.6	2.6	2.6	2.6	3.0	2.3

* Hours machine was operated

** Average for farmers using twine

Table 10. Costs and Returns per Acre for Earling Pears and Sweet Corn, Mitchell County, Georgia, 1942-1945

Items	Earling Pears			Sweet Corn		
	1942	1943	Avg. of 3 years	1942	1943	Avg. of 3 years
Acres per farm	15.6	16.4	14.9	14.6	18.0	16.9
COSTS AND RETURNS:						
Man labor	\$2.76	\$2.64	\$2.82	\$1.74	\$3.48	\$5.95
Horse and tractor	1.16	1.09	2.57	2.22	3.00	3.63
Twine	-	-	.01	.03	-	-
Manure	1.85	2.34	2.43	1.86	2.84	3.15
Machinery	.27	.90	1.27	1.61	1.29	1.67
Operating costs	\$6.74	\$6.97	\$9.20	\$7.46	\$12.61	\$14.45
Land charge	4.85	5.00	4.95	5.00	4.85	5.00
Total costs	\$17.60	\$17.97	\$24.15	\$12.46	\$17.46	\$19.45
Silage, fodder & stover credit	3.44	3.12	.99	1.50	.57	.48
Net costs	\$14.16	\$14.85	\$13.16	\$10.96	\$16.89	\$18.97
Crop value	24.25	31.70	21.93	21.35	18.52	33.64
Crop value less costs	\$10.09	\$16.85	\$8.77	\$10.39	\$1.63	\$14.67
YIELD, lbs. and tons	1553	2547	2.8	3.0	1.4	2.6
Cost per lb. or ton	.54	.34	\$4.70	\$3.69	\$10.64	\$7.30
Average price for the year	1.84	1.54	7.85	7.12	13.23	12.93
Amounts of labor, power						
Before harvest:						
Man labor, hrs.	2.8	2.4	5.6	6.2	5.5	5.6
Horse work, hrs.	.3	.5	2.8	2.4	2.5	4.7
Tractor use, hrs.	2.7	2.3	4.0	4.1	4.3	3.4
Harvest:*						
Man labor, hrs.	5.2	6.4	3.2	.8	3.3	9.3
Horse work, hrs.	-	-	2.1	-	2.1	6.4
Tractor use, hrs.	-	-	.1	.3	.1	-
Total:						
Man labor, hrs.	8.0	8.8	8.9	7.0	8.8	14.9
Horse work, hrs.	.7	.5	4.9	2.4	4.6	11.1
Tractor use, hrs.	2.7	2.3	4.1	4.4	4.4	3.4
2 high cost farms						
						\$2.21
						2.96
						-
						2.25
						1.10
						\$8.52
						5.00
						\$13.52
						.36
						\$13.16
						7.31
						\$-5.85
						.6
						\$21.93
						12.18

* Sweet corn harvested by earling company on best farms

Table 11. Costs and Returns per Acre for Husked Corn and Silage Corn, Nicollet County

Items	Husked Corn					Silage Corn								
	1941		1942		1943		1941		1942		1943			
	Avg. of 3 years	farms	26	27	23	5 low cost farms	5 high cost farms	Avg. of 3 years	farms	22	22	19 farms	5 low cost farms	5 high cost farms
Acres per farm	34.8	28.8	36.8	38.7	54.3	28.7		10.2	8.2	8.6	13.9	10.0	16.3	
COSTS:														
Man labor	\$3.18	\$2.65	\$3.21	\$3.69	\$3.01	\$4.64		\$5.16	\$4.65	\$5.14	\$5.70	\$5.80	\$5.91	
Horse and tractor	3.76	3.27	3.80	4.20	3.23	4.55		5.69	5.63	5.43	5.99	6.26	6.54	
Seed	.98	.82	.89	1.22	1.09	1.20		1.02	.95	.91	1.20	1.21	1.09	
Twine	-	-	-	-	-	-		.38	.39	.40	.34	.25	.33	
Manure	2.63	2.17	2.78	2.95	2.68	2.81		2.43	2.12	2.65	2.52	1.31	3.35	
Picker or filler	1.08	.80	1.20	1.23	1.61	.73		1.52	1.68	1.63	1.26	1.95	1.09	
Machinery	1.18	1.05	1.20	1.30	1.30	1.34		2.25	2.18	2.63	1.94	1.51	2.10	
Operating Costs	\$12.81	\$10.76	\$13.08	\$14.59	\$12.92	\$15.27		\$18.45	\$17.60	\$18.79	\$18.95	\$18.29	\$20.41	
Land charge	5.00	5.00	5.00	5.00	5.00	5.00		4.96	5.00	5.00	4.89	5.00	4.68	
Total Costs	\$17.81	\$15.76	\$18.08	\$19.59	\$17.92	\$20.27		\$23.41	\$22.60	\$23.79	\$23.84	\$23.29	\$25.09	
Credit for stover & corn														
picked up	-	-	-	-	-	-		.41	.40	.82	-	-	-	
Net Costs	\$17.81	\$15.76	\$18.08	\$19.59	\$17.92	\$20.27		\$23.00	\$22.20	\$22.97	\$23.84	\$23.29	\$25.09	
Crop value	37.23	28.86	44.81	38.04	46.53	24.14		26.32	26.44	25.43	27.09	36.46	19.71	
Crop value less costs	\$19.42	\$13.10	\$26.73	\$18.45	\$28.61	\$4.17		\$3.32	\$4.24	\$2.46	\$3.25	\$13.17	\$-5.38	
YIELD: Grain, bu.	55.2	56.6	66.9	42.2	51.7	27.1		-	-	-	-	-	-	
Roughage, tons	-	-	-	-	-	-		8.9	10.1	9.8	6.8	9.1	4.9	
Cost per bushel	\$.32	\$.28	\$.27	\$.46	\$.35	\$.75		-	-	-	-	-	-	
Cost per ton	-	-	-	-	-	-		2.58	2.21	2.34	3.51	2.56	5.12	
Average price for the year	.68	.51	.67	.90	.90	.90		2.96	2.62	2.60	3.98	4.01	4.02	
Amounts of labor, power & material:														
Before harvest:														
Man labor, hrs.	5.6	5.4	5.9	5.6	4.3	7.0		5.6	5.7	5.9	5.1	4.1	6.3	
Horse work, hrs.	3.4	3.7	3.8	2.8	2.2	1.2		3.3	3.8	3.6	2.4	.8	2.8	
Tractor use, hrs.	4.1	3.8	4.3	4.3	3.3	6.3		4.1	4.1	4.3	3.9	3.7	4.8	
Harvest:														
Man labor, hrs.	4.5	5.2	4.8	3.6	3.2	4.6		11.1	12.9	11.3	9.2	10.4	8.5	
Horse work, hrs.	4.6	5.9	4.8	3.2	2.3	3.5		11.9	15.7	11.7	8.4	6.0	7.4	
Tractor use, hrs.	1.2	1.2	1.3	1.1	1.1	1.6		2.6	2.7	2.6	2.6	3.4	2.5	
Seed, bushels	.14	.13	.14	.16	.14	.15		.17	.17	.17	.16	.18	.14	
Twine, lbs.	-	-	-	-	-	-		4.4	4.4	5.1	3.6	5.3	3.4	
Operating time for filler, hrs.	-	-	-	-	-	-		1.6	2.0	1.5	1.3	3.0	1.0	

Table 12. Cost and Returns for Alfalfa and Other Tame Hay, Nicollet County

Items	Alfalfa					Other Tame Hay*			
	1941		1942		1943	1941		1942	1943
	Avg. of 3 years	24 farms	24 farms	20 farms	5 low cost farms	Avg. of 3 years	10 farms	13 farms	3 low cost farms
Acres per farm	15.3	15.4	17.2	13.3	13.1	8.2	6.3	8.6	4.9
COSTS:									
Man labor	\$3.32	\$2.54	\$3.46	\$3.97	\$3.85	\$2.71	\$2.08	\$2.68	\$3.37
Horse and tractor	2.61	2.08	2.61	3.15	3.43	2.68	2.43	2.10	3.51
Seed	2.20	2.20	2.20	2.20	2.20	1.12	1.12	1.07	1.17
Manure	2.16	2.12	1.94	2.42	2.32	1.39	1.02	1.83	1.77
Machinery**	1.96	1.56	2.11	2.20	2.26	1.40	1.17	1.42	1.60
Operating Costs	\$12.25	\$10.50	\$12.32	\$13.94	\$14.06	\$9.30	\$7.82	\$9.10	\$10.98
Land charge	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Total Costs	\$17.25	\$15.50	\$17.32	\$18.94	\$19.06	\$14.30	\$12.82	\$14.10	\$15.98
Pasture credit	.05	-	.06	.08	-	.06	.09	.10	-
Net Costs	\$17.20	\$15.50	\$17.26	\$18.86	\$19.06	\$14.24	\$12.73	\$14.00	\$15.98
Yield, ton - Legumes	2.7	2.7	2.8	2.6	3.5	.6	.5	.6	.7
Non-legumes	-	-	-	-	-	1.1	1.0	1.1	1.3
Cost per ton	\$6.37	\$5.74	\$6.16	\$7.25	\$5.45	\$8.38	\$8.48	\$8.24	\$7.99
Per cent cut second time	91	91	96	85	.89	57	42	.57	72
Per cent cut third time	56	59	57	53	60	11	9	12	11
Amounts of									
First cutting:									
Man labor, hrs.	5.1	4.8	5.4	5.1	5.2	5.5	6.3	5.5	4.7
Horse work, hrs.	5.8	5.4	6.4	5.5	5.7	7.7	8.7	7.4	6.9
Tractor use, hrs.	.7	.8	.6	.6	.7	.3	.5	.2	.3
Second cutting:									
Man labor, hrs.	3.6	3.4	4.4	3.0	3.0	2.6	1.8	2.9	3.2
Horse work, hrs.	4.2	4.0	5.1	3.4	3.6	4.1	2.8	4.6	4.9
Tractor use, hrs.	.4	.5	.4	.4	.6	.1	-	-	.2
Third cutting:									
Man labor, hrs.	1.9	2.0	1.9	1.7	1.5	.4	.2	.5	.5
Horse work, hrs.	2.2	2.4	2.4	1.9	2.3	.6	.3	.8	.8
Tractor work, hrs.	.3	.3	.3	.4	-	-	-	-	-
Total:									
Man labor, hrs.	10.6	10.2	11.7	9.8	9.7	8.5	8.3	8.9	8.4
Horse work, hrs.	12.2	11.8	13.9	10.8	11.6	12.4	11.8	12.8	12.6
Tractor work, hrs.	1.4	1.6	1.3	1.4	1.3	.4	.5	.2	.5
Cost	\$2.37	\$2.31	\$2.66	\$2.66	\$2.66	\$2.37	\$2.08	\$2.68	\$3.37
Return	\$14.83	\$14.83	\$14.83	\$14.83	\$14.83	\$14.83	\$14.83	\$14.83	\$14.83

* Tame hay other than alfalfa and annual hay crops.

**Includes cost of baling wire.

Table 13. Costs per Acre for Phalaris and Wild Hay, Nicollet County

Items	Phalaris			Wild Hay		
	1942		1943	1941		1942
	Avg. of 2 years	10 farms	2 low cost farms	12 farms	11 farms	3 low cost farms
Acres per farm	7.8	9.4	4.0	15.9	12.4	15.2
COSTS:						
Man labor	\$2.26	\$2.50	\$2.46	\$1.37	\$1.21	\$1.52
Horse and tractor	1.71	1.94	1.49	1.20	1.05	1.22
Seed	.18	.35	-	.08	-	-
Manure	1.37	.94	.72	.08	.08	-
Machinery	1.20	1.33	.91	.78	.80	.85
Operating Costs	\$6.72	\$7.06	\$5.58	\$3.51	\$3.14	\$3.59
Land charge*	4.18	4.04	4.00	3.24	3.24	3.00
Total Costs	\$10.90	\$11.10	\$9.58	\$6.75	\$6.43	\$6.59
Pasture credit	.04	.07	-	-	-	-
Net Costs	\$10.86	\$11.03	\$9.58	\$6.75	\$6.43	\$6.59
Yield, tons	1.6	2.1	1.6	1.5	1.3	1.9
Cost per ton	\$6.78	\$5.25	\$5.99	\$4.50	\$4.98	\$3.47
Per cent cut second time	42	66	73	26	8	0
Per cent cut third time	3	5	0	2	0	0
Amounts of labor, power & materials:						
First cutting:						
Man labor, hrs.	4.4	5.2	6.2	4.4	3.8	3.8
Horse work, hrs.	5.3	7.7	4.0	6.1	5.7	3.7
Tractor use, hrs.	.4	-	2.0	.3	.1	.7
Second cutting:						
Man labor, hrs.	2.3	3.0	-	1.0	.3	-
Horse work, hrs.	3.5	4.9	6.6	1.4	.3	-
Tractor use, hrs.	-	-	-	-	-	.3
Third cutting:						
Man labor, hrs.	.1	.2	-	.1	-	-
Horse work, hrs.	.2	.3	-	.1	-	-
Tractor use, hrs.	-	-	-	-	-	-
Total:						
Man labor, hrs.	6.8	8.4	6.2	5.5	4.1	3.8
Horse work, hrs.	9.0	12.9	4.0	7.6	6.0	3.7
Tractor use, hrs.	.4	-	2.0	.3	.1	.7

* Land charge at \$5.00 per acre for tillable land and \$3.00 per acre for non-tillable land.

Table 14. Costs per Acre for Sudan Grass Pasture, Nicollet County

Items	Avg. of 3 years	1941	1942	1943		
		9 farms	6 farms	7 farms	2 low cost farms	2 high cost farms
Acres per farm	7.4	7.8	9.0	5.4	5.7	3.7
COSTS:						
Man labor	\$.85	\$.54	\$.85	\$1.16	\$.72	\$1.69
Horse and tractor	1.26	.95	1.29	1.54	.82	1.91
Seed	1.69	1.82	1.24	2.00	.70	3.72
Manure	1.87	1.87	1.60	2.16	1.64	2.39
Machinery	.92	.80	.90	1.05	1.05	1.05
Operating Costs	<u>\$6.59</u>	<u>\$5.98</u>	<u>\$5.88</u>	<u>\$7.91</u>	<u>\$4.93</u>	<u>\$10.76</u>
Land charge	5.00	5.00	5.00	5.00	5.00	5.00
Total costs	<u>\$11.59</u>	<u>\$10.98</u>	<u>\$10.88</u>	<u>\$12.91</u>	<u>\$9.93</u>	<u>\$15.76</u>
Amounts of labor, power, & materials						
Man labor, hrs.	2.6	2.2	2.8	2.9	1.8	4.2
Horse work, hrs.	1.2	2.2	.8	.6	-	-
Tractor use, hrs.	2.2	1.4	2.5	2.7	1.8	4.2
Seed, pounds	31	35	27	32	14	45

Table 15. Costs per Acre for Small Grain Pasture, Nicollet County

Items	Avg. of 3 years	1941	1942	1943		
		5 farms	14 farms	8 farms	3 low cost farms	3 high cost farms
Acres per farm	7.0	8.5	6.1	6.3	4.6	5.8
COSTS:						
Man labor	\$.67	\$.37	\$.67	\$.97	\$.50	\$1.42
Horse and tractor	.95	.61	1.01	1.23	.64	1.90
Seed	1.36	1.08	1.61	1.38	1.34	1.30
Manure	1.62	1.87	1.64	1.35	.63	2.10
Machinery	.91	.80	.90	1.05	1.05	1.05
Operating Costs	<u>\$5.51</u>	<u>\$4.73</u>	<u>\$5.83</u>	<u>\$5.98</u>	<u>\$4.16</u>	<u>\$7.77</u>
Land charge	5.00	5.00	5.00	5.00	5.00	5.00
Total costs	<u>\$10.51</u>	<u>\$9.73</u>	<u>\$10.83</u>	<u>\$10.98</u>	<u>\$9.16</u>	<u>\$12.77</u>
Amounts of labor, power, & materials						
Man labor, hrs.	2.0	1.5	2.2	2.4	1.3	3.6
Horse work, hrs.	1.7	1.1	2.8	1.2	-	1.8
Tractor use, hrs.	1.5	1.0	1.4	2.1	1.3	3.1
Seed, bushels	1.9	2.3	1.7	1.7	1.4	1.7

Most of the crops raised in southern Minnesota are utilized as feed for livestock. It is desirable that the feed crops yield a large quantity of feed nutrients at a low cost. The production per acre and the relative cost per hundred pounds of digestible nutrients for the principal feed crops raised in Nicollet County are presented in Table 16. More feed nutrients were produced per acre and at a lower cost per pound with roughages than with grains. Average yields in Nicollet County for the twenty-five year period from 1917 thru 1941 were used. The costs per acre for producing crops in 1941-1943, as presented in the preceding tables, were used. The cost per hundred pounds of digestible nutrients in alfalfa hay was only 81 per cent as high as in corn silage. The nutrients in alfalfa are more valuable than those in silage because the protein content is higher. The cost of producing a hundred pounds of nutrients was only half as high with corn as with small grains. On the farms studied during this three-year period the advantage of corn and alfalfa over small grains was even larger than is shown in Table 16.

Table 16. Comparative Yields and Costs of Producing Feed Nutrients, Nicollet Co.

	Average yield per acre (1917-41)* bushels	Total digestible nutrients per acre** pounds	Cost per acre	Cost per 100 lbs. of digestible nutrients	Per cent protein is of total nutrients**
Grain					
Corn	45.6	2082	\$17.74	\$.85	9.0
Barley	28.4	1051	14.98	1.42	12.6
Oats	38.7	860	15.96	1.86	14.7
Winter wheat	18.1	860	15.98	1.86	11.1
Spring wheat	15.4	732	16.09	2.20	11.1
Roughages					
Alfalfa	2.4 tons	2472	17.20	.70	20.2
Corn silage	8.0	2688	23.00	.86	7.1

* Calculated from Minnesota Annual Crop and Livestock Statistics. Corn yields for the twenty-year period 1917-36 increased by 15 per cent to adjust to hybrid corn yields. Alfalfa and corn silage yields calculated from records of the Southeast Minnesota Farm Management Service.

** Analysis of feeds obtained from "Feeding the Dairy Herd," Minnesota Extension Bulletin 218 (1941 edition).

With serious shortages of farm labor during the war period, it is necessary to grow those crops which yield the greatest return per hour. On the basis of the long time average yields shown in Table 16 and the man hours required per acre shown in the preceding tables, the pounds of total digestible nutrients produced per hour of labor are:

Corn (husked)	206 lbs.	Alfalfa hay	233 lbs.
Barley	157 "	Corn silage	161 "
Oats	116 "		
Winter wheat	115 "		
Spring wheat	100 "		

More feed can be produced per hour of labor as well as per acre with corn and alfalfa than with any other crops. By raising as large an acreage of these crops as possible the farmers can increase their total production without materially affecting the labor requirement.

Some farmers raise crops for sale. The net return per acre is an important consideration in the selection of crops for this purpose. The comparative return per acre for the crops commonly grown for sale in Nicollet County is shown in Table 17.

Table 17. Comparative Return Per Acre for Cash Crops, Nicollet County

	Yield per acre (1917-41)	Average price 1938- 1943	Value per acre	Adjusted cost per acre	Net returns per acre
Corn	45.6	\$.59	\$26.90	\$17.81	\$9.09
Winter wheat	18.1	.92	16.65	15.98	.67
Flax	10.0	1.93	19.30	16.49	2.81
Spring wheat	15.4	.94	14.48	16.09	-1.61
Barley	28.4	.55	15.62	14.98	.64
Oats	38.7	.38	14.71	15.96	-1.25

In addition to selecting high return crops, it is also necessary to produce those crops at the lowest cost possible. In the preceding tables of crop costs the group of farmers with the highest cost per bushel or per ton had costs approximately twice as high as the group with the lowest costs per unit. Differences among individual farmers were even larger. These differences are similar to those obtained in other studies of crop production costs. In years of average yields, these differences in costs can mean the difference between profit and loss.

These differences in costs per unit are due partially to differences in costs per acre. There are big differences among farms in the costs for labor and power, due both to variations in the costs per hour and the hours of use on each crop. There are also big differences in the other cost items. By better planning and more effective work, the costs per acre can be reduced on many farms.

The biggest factor causing differences in costs per unit is differences in yield per acre. For every crop presented in the preceding tables, the farmers with low costs per unit had high yields. For most crops, the differences were quite large. The cost per acre was usually higher on the high yielding farms, but the difference was not enough to offset the difference in yields. This relationship of cost per unit to the yield per acre is shown more clearly in Table 18. It is important to study carefully every possible method for increasing yields. Among these methods are good seedbeds, timely work, good seed of high yielding varieties and proper fertilization.

Table 18. High Yields Give Low Costs per Unit, Nicollet County

Yield	Oats			Husked Corn			Flax		
	Cost per acre	Bu. per acre	Cost per bu.	Cost per acre	Bu. per acre	Cost per bu.	Cost per acre	Bu. per acre	Cost per bu.
Lowest third	\$15.40	24.2	\$.64	\$16.95	44.4	\$.38	\$16.09	3.5	\$4.60
Middle third	15.31	35.6	.43	17.41	56.2	.31	16.17	7.1	2.28
Highest third	17.29	47.8	.36	18.67	67.1	.28	17.33	11.1	1.56

The efficiency with which the crop operations are performed is one factor influencing the cost of producing crops. The amounts of labor and power used per acre for the principal crop operations are presented in Table 19. An individual farmer can compare the time he spends per acre with the data in this table in order to check his efficiency.

Table 19. Amount of Labor and Power Used per Acre for Crop Operations, Nicollet County

Operations	No. of farms			Avg. 3 yrs.	Average		Range 1943	
	1941	1942	1943		1941	1942		1943
<u>Seedbed Preparation:</u>								
Plowing: man hrs. with medium tractor*	13	13	12	1.32	1.28	1.35	1.11 - 1.50	
<u>Disking: (single)</u>								
Man hrs. with medium tractor	13	13	10	.43	.46	.47	.17 - .73	
Man hrs. with 4 horses	7	7	3	.73	.70	.71	.36 - 1.00	
<u>Springtoothing:</u>								
Man hrs. with medium tractor	10	8	10	.53	.56	.62	.16 - .64	
<u>Harrowing:</u>								
Man hrs. with medium tractor	12	14	13	.23	.26	.19	.15 - .37	
Man hrs. with 4 horses	12	13	6	.36	.40	.37	.24 - .39	
<u>Seeding and rianting:</u>								
<u>Drilling grain:</u>								
Man hrs. with medium tractor	5	6	8	.45	.46	.41	.26 - .77	
Man hrs. with 4 horses	11	16	7	.59	.62	.56	.40 - .69	
Planting corn with 2 horses	21	24	19	.79	.82	.80	.49 - 1.23	
<u>Cultivating:</u>								
Corn with medium tractor	12	13	9	.54	.49	.57	.46 - 1.07	
<u>Harvesting Hay:</u>								
Mowing, man hrs. with 2 horses	19	24	21	1.05	1.04	1.05	.64 - 1.93	
Raking, (side delivery) man hrs. with 2 horses	21	24	20	.68	.66	.72	.33 - 1.12	
<u>Stacking by hand:</u>								
Man hrs.	10	13	10	2.65	3.04	2.26	1.22 - 6.44	
Horse hrs.	10	13	10	2.57	3.18	2.21	.70 - 4.36	
Tractor hrs.	10	13	10	.21	.23	.13	.17 - .64	
<u>Hauling hay:</u>								
Man hrs.	20	26	20	2.44	2.34	2.72	.40 - 3.33	
Horse hrs.	20	26	20	2.31	2.47	2.80	.79 - 4.79	
Tractor hrs.	20	26	20	.32	.29	.20	.34 - 2.26	
<u>Harvesting Grain:</u>								
Cutting grain with medium tractor	10	13	10	1.15	1.19	1.16	.48 - 1.75	
Man hrs.	10	13	10	.64	.63	.60	.36 - 1.45	
Tractor hrs.								
Cutting flax with medium tractor	7	7	8	1.42	1.46	1.37	.56 - 2.60	
Man hrs.	7	7	8	.80	.72	.74	.36 - 2.60	
Tractor hrs.								

Table 19. Amount of Labor and Power Used per Acre for Crop Operations, Nicollet County (Cont.)

Operations	No. of farms			Avg. 3 yrs.	Average			Range 1943
	1941	1942	1943		1941	1942	1943	
<u>Harvesting Grain:</u>								
Shocking grain, man hrs.	21	21	23	1.10	1.02	1.22	1.05	.49 - 1.67
Shocking flax, man hrs.	6	8	6	1.27	1.60	.86	1.36	.71 - 1.88
<u>Threshing:</u>								
Oats, barley and mixtures								
Man hrs.	23	25	22	3.05	3.33	3.08	2.74	1.33 - 6.82
Horse hrs.	23	25	22	4.17	5.07	3.95	3.48	1.12 - 6.85
Wheat								
Man hrs.	14	14	9	3.37	3.38	3.76	2.98	1.78 - 6.16
Horse hrs.	14	14	9	4.48	5.42	4.58	3.44	1.33 - 7.09
Flax								
Man hrs.	15	17	17	3.52	4.30	3.67	2.59	1.05 - 6.58
Horse hrs.	15	17	17	5.05	6.67	4.46	4.02	.83 - 10.04
<u>Harvesting Corn:</u>								
Cutting corn with medium tractor								
Man hrs.	7	5	7	2.08	2.40	2.33	1.50	.67 - 2.81
Tractor hrs.	7	5	7	1.39	1.55	1.58	1.03	.67 - 1.42
Cutting corn with 3 horses								
Man hrs.	10	7	4	1.61	1.58	1.19	2.06	1.04 - 3.61
Shocking corn, man hrs.	6	9	13	3.19	3.04	3.21	3.31	.71 - 7.50
Filling silo with filler								
Man hrs.	18	22	18	9.27	10.76	9.08	7.98	4.73 - 15.38
Horse hrs.	18	22	18	10.95	14.76	10.15	7.95	1.95 - 13.33
Tractor hrs.	18	22	18	1.74	1.76	1.74	1.73	.64 - 4.94
Husking corn by hand								
Man hrs.	7	8	8	6.95	7.46	7.51	5.87	1.05 - 8.71
Horse hrs.	7	8	8	10.82	12.93	12.19	7.35	2.10 - 14.05
Husking corn by machine with medium tractor								
Man hrs.	6	10	9	4.13	4.48	4.58	3.33	1.89 - 7.65
Horse hrs.	6	10	9	3.45	4.70	3.33	2.31	1.85 - 8.92
Tractor hrs.	6	10	9	1.57	1.45	1.84	1.41	.61 - 2.48

* Drawbar horsepower 12.00 to 18.50 (see discussion on page 28).

Livestock Summaries

The number of livestock on the farms included in this study is summarized in Table 20. Dairy cattle and hogs were the principal classes of livestock. All farmers kept some chickens. Only a few farmers kept beef cattle or sheep.

Table 20. Summary of Amount of Livestock, Nicollet County

Items	1941		1942		1943	
	Avg. of 3 years	Avg. of 26 farms	Avg. of 27 farms	Avg. of 24 farms	5 high profit farms	5 low profit farms
Head of dairy and dual pur.cows	14.9	14.9	14.8	15.0	20.7	12.6
Head of other dairy & dual pur.	17.7	17.0	17.0	19.1	23.1	15.8
Pounds of feeder cattle produced	1106	1700	1289	330	1407	-
Litters of pigs	19	16	20	20	27	12
Pounds of hogs produced	27016	23849	29473	27726	46737	18447
Head of sheep (2 lambs = 1 head)	2.6	3.4	2.1	2.3	-	4.3
Number of hens	234	208	224	270	235	341
Total number of productive livestock animal units	42.5	40.7	43.0	43.9	61.5	34.8

Summaries of the costs and returns for each class of livestock are presented in Tables 21 thru 26. Data on the quantities of labor, feed, etc. used in livestock production are included.

The man and horse hours include both regular daily chore labor and irregular labor, such as tending sick animals, marketing livestock and livestock products, and hauling feed and bedding. Man labor was figured at 25 cents per hour in 1941, 30 cents in 1942, and 40 cents in 1943, and horse work at cost for each farm. Commercial feeds were valued at cost and farm raised feeds at average local prices. The shelter charge was based on the annual cost of the buildings housing livestock, prorated on the basis of the space occupied. The equipment charge was based upon the annual cost of the particular equipment used by that class of livestock; it includes a charge for the use of the auto, truck, and tractor in connection with the livestock work. Interest was calculated at five per cent on the average of the beginning and ending inventories. Miscellaneous cash costs include such cash expenses as veterinary fees, medicine, salt, minerals, fuel for brooders, incubators and tank heaters, horseshoeing, and sheep shearing. The manure credit was calculated on the basis of the kind and the amount of feed consumed and the proportion of the fertilizing elements returned in the manure. Credit was allowed for manure produced even if it was not utilized. The value of livestock production was determined by adding the sales, the products used in the house and the ending inventory and then deducting from this total the sum of the beginning inventory and purchases. Transfers from one group to another were considered the same as purchases and sales. Butterfat produced was the sum of sales, used in the home, and fed.

In considering the returns from livestock, one should keep in mind that these are comparative figures and include some charges which do not represent actual cash outlay. The feed, man labor, horse work, use of buildings and equipment, and interest on the investment have been charged to the enterprise, although they may represent very little direct cash expense. Therefore, a minus return means that the particular class of livestock has failed to pay the usual market rates at which the different factors have been charged. There may be no other more profitable alternative use for the buildings, much of the labor, or for the nonmarketable feed. A return above the price of the marketable feeds and cash expenses may justify continued production for a time even though these figures fail to show a gain.

Table 21. Costs and Returns per Dairy Cow, Nicollet County

	Avg. of 3 years	1941 26 farms	1942 27 farms	24 farms	1943 5 high return	5 low return
Number of cows per farm	14.9	14.8	14.8	15.0	16.0	11.5
Butterfat per cow, lbs.	242	253	244	228	280	198
Man labor, hrs.	142	148	138	141	126	187
Horse work, hrs.	3	3	4	3	2	2
COSTS:						
Feed	\$63.19	\$50.77	\$58.24	\$80.57	\$89.52	\$90.84
Man labor	45.01	37.08	41.45	56.50	50.22	74.95
Horse work	.57	.43	.54	.74	.58	.54
Shelter	7.25	7.37	7.22	7.15	6.07	7.92
Equipment	4.55	3.86	4.34	5.44	4.39	6.60
Interest	3.82	3.68	3.89	3.91	4.14	4.70
Miscellaneous cash	2.97	2.68	2.83	3.39	2.67	7.40
Depreciation*	-6.05	-2.24	-7.80	-8.12	-12.00	-4.32
Total Costs	\$121.30	\$103.63	\$110.71	\$149.58	\$145.59	\$188.63
Manure credit	5.28	4.97	5.28	5.60	5.54	6.95
NET COST	\$116.02	\$98.66	\$105.43	\$143.98	\$140.05	\$181.68
Value of Dairy Products:						
Sold	\$100.53	\$87.43	\$99.70	\$114.47	\$143.25	\$100.39
Used in the house	6.11	4.92	5.80	7.60	7.75	6.73
Fed to livestock	18.54	17.86	18.52	19.25	21.80	16.67
Total Product	\$125.18	\$110.21	\$124.02	\$141.32	\$172.80	\$123.79
Return over all costs	\$9.16	\$11.55	\$18.59	\$-2.66	\$32.75	\$-57.89
Return over feed costs	61.99	61.68	73.58	68.87	95.28	37.27
Return per hour	.38	.33	.43	.38	.66	.09
Price received per lb. of butterfat	.464	.384	.454	.554	.551	.556
Cost per lb. of butterfat	.48	.39	.43	.63	.50	.92
FEEDS:						
Corn, lbs.	926	880	911	987	1158	1064
Small grain, lbs.	1085	1323	966	966	1390	688
Com. feeds, under 25% protein	108	116	97	112	66	390
Com. feeds, over 25% protein	87	82	84	96	89	100
Legume hay, lbs.	3789	3391	3955	4021	3474	5182
Other hay, lbs.	491	498	406	570	675	1117
Fodder and stover, lbs.	391	337	286	549	166	1408
Total Concentrates, lbs.	2206	2401	2058	2161	2703	2242
Total Dry Roughages, lbs.	4671	4226	4647	5140	4315	7706
Silage, lbs.	6604	5666	6194	7953	8113	7890
Total digestible nutrients, lbs.	5127	4870	4976	5535	5584	6805
T.D.M. per lb. of butterfat	21.7	19.3	20.4	25.5	20.0	36.5
% Protein in the ration	14.1	14.1	14.3	13.8	13.5	13.5
Days of pasture	153	150	145	164	169	143
Per cent of fall freshening	63	65	67	58	61	71

* A minus (-) represents an increase in value.

Table 22. Costs and Returns per Head of Other Dairy Cattle*, Nicollet County

	Avg. of 3 years	1941	1942	1943		
		26 farms	27 farms	24 farms	5 high return over cost	5 low return over cost
Number of head per farm	17.8	17.0	17.4	19.1	21.1	18.6
Man labor, hrs.	32	33	31	31	24	38
Horse work, hrs.	2	2	2	2	2	5
COSTS:						
Feed	\$33.56	\$29.82	\$31.46	\$39.39	\$35.46	\$47.52
Man labor	10.01	8.20	9.58	12.24	9.43	20.79
Horse work	.36	.25	.27	.55	.35	1.11
Shelter	4.05	4.04	4.34	3.78	3.38	5.15
Equipment	.28	.40	.14	.31	.23	.47
Interest	1.95	1.76	2.03	2.07	2.20	1.88
Miscellaneous cash	.76	.93	.44	.90	.68	.81
Total costs	\$50.97	\$45.40	\$48.26	\$59.24	\$51.73	\$77.73
Manure credit	2.47	2.47	2.51	2.43	2.22	2.90
NET COST	\$48.50	\$42.93	\$45.75	\$56.81	\$49.51	\$74.83
Net increase in value	\$41.17	\$37.56	\$43.13	\$42.82	\$59.33	\$35.68
Return over all costs	-7.33	-5.37	-2.62	-13.99	9.82	-39.15
Return over feed cost	7.61	7.74	11.67	3.43	23.87	-11.84
Return per hour	.08	.09	.22	none	.81	none
FEEDS:						
Corn, lbs.	286	273	229	355	244	541
Small grain, lbs.	349	375	310	363	434	377
Com. feeds - under 25% protein	20	18	23	20	19	-
Com. feeds - over 25% protein	9	6	7	14	1	2
Legume hay, lbs.	1502	1525	1553	1427	1416	1553
Other hay, lbs.	644	505	700	728	365	1476
Fodder and stover, lbs.	301	295	370	238	123	451
Total Concentrates, lbs.	664	672	569	752	698	920
Total Dry Roughages, lbs.	2447	2325	2623	2393	1904	3480
Silage, lbs.	2641	2696	2788	2440	2640	2092
Whole milk, lbs.	337	449	356	205	1528	1798
Skim milk, lbs.	1835	2021	1775	1708	158	319
Days on pasture	111	106	118	108	99	111
Pounds of B.F. per cow	242	253	244	228	231	266

* Including herd bulls.

Table 23. Costs and Returns per Cow for All Dairy Cattle, Nicollet County

	Avg. of 3 years	1941		1942		1943	
		26 farms	27 farms	24 farms	5 high return over cost	5 low return over cost	
Number of cows	14.9	14.9	14.8	15.0	13.4	11.5	
Total Animal Units of Cattle	24.2	23.8	23.9	24.9	22.4	18.8	
Butterfat per cow, lbs.	242	253	244	228	257	199	
Man labor, hrs.	179	184	176	178	146	234	
Horse work, hrs.	6	6	5	6	2	5	
COSTS:							
Feed*	\$91.35	\$72.34	\$83.51	\$118.19	\$121.30	\$132.24	
Man labor	56.54	46.11	52.39	71.14	58.50	93.75	
Horse work	.99	.69	.86	1.41	.63	1.07	
Shelter	12.06	11.94	12.29	11.96	9.33	12.51	
Equipment	4.88	4.30	4.50	5.83	4.66	7.15	
Interest	6.21	5.72	6.29	6.62	6.82	7.71	
Miscellaneous cash	3.87	3.80	3.35	4.45	3.35	8.15	
Total Costs	\$175.90	\$144.90	\$163.19	\$219.62	\$204.79	\$262.58	
Manure credit	8.17	7.71	8.20	8.62	8.13	10.04	
NET COSTS	\$167.73	\$137.19	\$154.99	\$211.00	\$196.66	\$252.54	
Value of dairy products*	\$113.96	\$98.57	\$113.18	\$130.14	\$144.87	\$114.22	
Net increase in val. of cattle	54.02	44.35	57.49	60.22	82.25	62.87	
Total value produced	\$167.98	\$142.92	\$170.67	\$190.36	\$227.12	\$177.09	
Return over all costs	\$.25	\$ 5.73	\$15.68	\$-20.64	\$30.46	\$-75.45	
Return over feed costs	76.63	70.58	87.16	72.17	105.82	44.85	
Return per hour	.32	.28	.38	.30	.62	.05	
FEEDS:							
Corn, lbs.	1271	1194	1190	1430	1195	1600	
Small grain, lbs.	1495	1750	1333	1402	2054	1123	
Com. feeds-under 25% prot.	130	137	118	136	643	470	
Com. feeds-over 25% prot.	100	89	95	117	55	152	
Legume hay, lbs.	5523	5066	5741	5761	4925	6823	
Other hay, lbs.	1301	1122	1256	1524	1278	2106	
Fodder and stover, lbs.	717	648	700	802	285	1904	
Total concentrates, lbs.	2998	3170	2736	3087	3398	3345	
Total dry roughage, lbs.	7540	6836	7697	8087	6487	10833	
Silage, lbs.	9800	8710	9566	11125	10737	13054	
Whole milk, lbs.**	367	478	374	249	216	296	
Skim milk, lbs.**	2070	2195	1957	2058	1647	2034	
Days on pasture	284	270	263	320	337	294	

* Does not include value of milk fed to young cattle.

** All milk fed to young cattle.

Cost of Keeping a Bull

Interest in artificial insemination has been developing rapidly in Minnesota. The cost of keeping a bull compared with the cost of obtaining the services for artificial insemination is one of the factors considered by farmers before changing the method of breeding. The data obtained in this study together with data from a similar study conducted in Winona County during the six-year period 1935-1940 provides information on the cost of keeping a bull. These data are presented in Table 24. The sale price of the bulls was approximately equal to the original cost. There was, therefore, no appreciation or depreciation.

Table 24. Cost per Farm for Keeping a Bull

	Nicollet Co. Avg. 1941-43	Winona Co. 1935-40
Number of farms per year	19	21
Number of bulls per farm	1.0	1.0
Man hours	98	62
Horse hours	5.4	2.4
COSTS:		
Feed	\$47.68	\$34.49
Man labor	31.36	15.50
Horse work	.77	.23
Shelter	14.19	16.68
Equipment	.58	.36
Interest	5.55	4.26
Miscellaneous cash	1.48	.70
Total cost	\$101.61	\$72.22
Manure credit	4.26	3.30
Net cost	\$97.35	\$68.92
Number of cows in herd	16.3	20.0
Number of cows served*	19.6	24.0
Cost per cow in herd	\$5.94	\$3.45
Cost per cow served	4.95	2.87
FEEDS:		
Corn, lbs.	640	208
Small grains, lbs.	749	1095
Commercial feeds, lbs.	58	53
Legume hay, lbs.	3435	3288
Other hay, lbs.	1465	1039
Fodder and stover, lbs.	313	309
Total concentrates, lbs.	1447	1356
Total dry roughage, lbs.	5213	4636
Silage, lbs.	3165	3263
Days on pasture	43	53

* The number of cows served is higher than the average number of cows kept in the herd. Deaths, sales, and heifers freshening account for the difference.

Table 25. Costs and Returns per 100 Pounds Hogs Produced, Nicollet County

	Avg. of 3 years	1941		1942		1943	
		26 farms	27 farms	24 farms	5 high return over cost	5 low return over cost	
Pounds produced per farm	27016	23849	29473	27726	30714	14573	
Man labor, hrs.	2.6	2.6	2.2	3.1	2.3	4.6	
Horse work, hrs.	.1	.1	.1	.1	.1	.1	
COSTS:							
Feeds	\$8.01	\$5.72	\$7.46	\$10.86	\$8.74	\$13.35	
Man labor	.85	.67	.65	1.24	.90	1.88	
Horse work	.02	.02	.02	.03	.02	.01	
Shelter	.09	.07	.09	.11	.04	.20	
Equipment	.14	.11	.10	.20	.27	.23	
Interest	.27	.18	.28	.36	.24	.43	
Miscellaneous cash	.23	.19	.25	.24	.25	.28	
Total Cost	\$9.61	\$6.96	\$8.85	\$13.04	\$10.46	\$16.38	
Manure credit	.39	.38	.37	.43	.34	.52	
NET COST	\$9.22	\$6.58	\$8.48	\$12.61	\$10.12	\$15.86	
Value produced	\$12.76	\$10.60	\$14.51	\$13.18	\$13.89	\$12.59	
Return over all costs	3.54	4.02	6.03	.57	3.77	-3.27	
Return over feed costs	4.75	4.88	7.05	2.32	5.15	-.76	
Return per hour	1.68	1.80	3.04	.58	2.04	None	
Aver. selling price per cwt.	12.05	9.18	13.16	13.82	14.07	13.65	
Aver. wt. of hogs sold	259	266	257	255	262	208	
No. of spring litters raised	12	10	13	14	14	10	
No. of fall litters raised	6	6	7	6	5	6	
No. of pigs born per litter	7.7	8.3	7.7	7.2	7.8	7.2	
No. of pigs weaned per litter	5.8	5.9	5.9	5.6	6.2	5.9	
FEEDS:							
Corn, lbs.	386	345	365	450	314	534	
Small grain, lbs.	133	164	128	106	103	151	
Com. feeds, under 25%	9	6	9	11	12	21	
Com. feeds, over 25%	18	12	17	24	28	17	
Total Concentrates	546	527	519	591	461	724	
Skim milk, lbs.	186	194	177	186	120	269	
Days on pasture	24	17	27	27	23	31	

Table 26. Costs and Returns per Hen* Nicollet County

	Avg. of 3 years	1941	1942	1943		
		24 farms	25 farms	22 farms	5 high return over cost	5 low return over cost
Number of hens	254	225	242	295	296	333
Eggs produced	135	124	139	143	158	119
Pounds meat produced	6.2	7.4	5.8	5.3	6.6	6.0
Man hours	2.4	2.8	2.2	2.1	1.7	3.0
Horse hours	.1	.1	.1	.1	.1	-
COSTS:						
Feed	\$2.12	\$1.71	\$2.00	\$2.64	\$2.37	\$3.44
Man labor	.73	.69	.65	.84	.67	1.20
Horse work	.01	.01	.01	.02	.01	.01
Shelter	.12	.14	.12	.10	.12	.13
Equipment	.17	.14	.17	.19	.15	.24
Interest	.04	.04	.04	.04	.03	.05
Misc. cash	.13	.12	.12	.16	.07	.30
Total Cost	\$3.32	\$2.85	\$3.11	\$3.99	\$3.42	\$5.37
Manure credit	.09	.09	.09	.09	.08	.12
Net Cost	\$3.23	\$2.76	\$3.02	\$3.90	\$3.34	\$5.25
Value of Product:						
Eggs sold & used in house	\$3.19	\$2.17	\$3.28	\$4.14	\$4.54	\$3.44
Net incr. in value of poultry	.72	.64	.72	.79	1.11	.92
Total Product	\$3.91	\$2.81	\$4.00	\$4.93	\$5.65	\$4.36
Return over all costs	\$.68	\$.05	\$.98	\$1.03	\$2.31	\$-.89
Return over feed costs	1.79	1.10	2.00	2.29	3.28	.92
Return per hour	.59	.27	.75	.89	1.76	.10
Price rec'd. per doz. eggs sold	.279	.211	.281	.344	.343	.339
Cost per dozen eggs	.29	.21	.20	.28	.20	.42
% of hens that were pullets	77	73	77	80	90	87
% death loss of hens	21	23	20	20	12	31
FEED:						
Corn, lbs.	32	39	28	29	27	35
Small grain, lbs.	61	62	57	65	56	82
Com. feeds, lbs.	25	23	25	26	18	35
Total concentrates	118	124	110	120	111	152
Skim milk	17	26	13	13	7	1

* Includes costs and returns for the roosters and chicks.

Power, Machinery and Labor Summaries

Table 27. Cost per Head for Work Horses, Nicollet County

	Avg. of 3 years	1941	1942	1943		
		24 farms	25 farms	22 farms	5 farms low cost per hour	5 farms high cost per hour
Number of work horses	3.9	3.9	4.0	3.8	4.3	3.7
Grain, lbs.	2175	2417	2187	1922	2116	1536
Roughage, lbs.	6069	5896	6006	6304	6047	6413
Pasture days	103	100	92	116	146	144
Man hours	67	70	68	64	64	60
Costs:						
Feed	\$47.34	\$39.56	\$43.95	\$58.50	\$59.83	\$55.43
Man labor	21.22	17.64	20.35	25.66	25.60	23.82
Shelter	6.86	6.91	7.34	6.32	4.76	7.17
Equipment	4.67	4.76	4.59	4.65	6.34	4.46
Interest	3.95	3.98	3.71	4.18	3.50	4.59
Miscellaneous cash	1.55	1.88	.74	2.05	1.11	1.55
Depreciation	12.34	14.27	8.00	14.75	14.75	14.75
Total Cost	\$97.93	\$89.00	\$88.68	\$116.11	\$115.89	\$111.77
Manure credit	3.72	3.77	3.68	3.71	3.51	3.73
Net Cost	\$94.21	\$85.23	\$85.00	\$112.40	\$112.38	\$108.04
HOURS WORKED	527	610	533	437	652	147
COST PER HOUR	18¢	14¢	16¢	26¢	17¢	73¢
Acres tillable land per farm	170	165	175	171	256	193
Hours tractor use per farm	694	618	715	748	992	921

Table 28. Costs and Returns for Horses Other Than Work Horses, Nicollet County.

	Avg. of 3 years	1941	1942	1943		
		14 farms	14 farms	12 farms	3 farms high net return per head	3 farms low net return per head
Number of misc. horses	2.2	2.1	2.7	1.9	2.2	1.3
Grain, lbs.	563	667	609	413	15	950
Roughage, lbs.	3310	3439	3697	2794	1881	4606
Skim milk, lbs.	110	333	-	-	-	-
Pasture days	147	178	132	131	121	154
Man hours	32	41	26	29	32	41
Horse hours	3	4	3	2	2	2
Costs:						
Feed	\$18.12	\$16.96	\$19.35	\$18.04	\$9.21	\$35.78
Man labor	9.91	10.15	7.83	11.75	12.66	16.28
Horse work	.43	.40	.37	.53	.38	.89
Shelter	3.88	6.17	1.38	4.09	1.84	3.73
Equipment	.04	.04	-	.09	-	-
Interest	2.85	2.79	2.81	2.97	3.21	4.17
Misc. cash	.56	.69	.49	.49	-	-
Total cost	\$35.79	\$37.20	\$32.23	\$37.96	\$27.30	\$60.85
Manure credit	1.53	1.65	1.70	1.25	.85	2.38
Net Cost	\$34.26	\$35.55	\$30.53	\$36.71	\$26.45	\$58.47
INCREASE IN VALUE	\$12.54	\$21.48	\$13.64	\$ 2.50	\$50.07	\$-55.04
RETURN OVER COST	\$-21.72	\$-14.07	\$-16.89	\$-34.21	\$23.62	\$-113.51

Table 29. Cost per Hour for Tractor Operation, Nicollet County

Drawbar horsepower*	Small			Medium			Large					
	Avg. of 3 years	1941	1942	1943	Avg. of 3 years	1941	1942	1943	Avg. of 3 years	1941	1942	1943
Number of tractors	4	6	3	3	16	16	17	16	9	5	11	12
Average drawbar horsepower**	10.2	10.3	10.1	10.2	16.1	16.3	16.0	15.9	22.6	24.1	22.0	21.8
Labor, hours (servicing)**	.2	.2	.2	.1	.2	.3	.2	.2	.3	.3	.3	.2
Fuel, gallons**	13.1	13.7	12.6	13.0	17.1	17.1	16.1	18.1	18.0	18.3	18.2	17.7
Oil, quarts**	1.3	1.0	2.1	.8	1.7	1.5	1.6	2.1	1.4	1.5	1.5	1.3
Costs per hour:												
Fuel	\$.15	\$.15	\$.15	\$.14	\$.21	\$.20	\$.21	\$.22	\$.21	\$.22	\$.20	\$.21
Oil and lubricants	.02	.02	.04	.02	.03	.03	.03	.04	.02	.02	.02	.02
Labor (servicing)	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
Horses, auto, truck	-	.00	.01	.00	-	.00	.00	.00	-	.00	.00	.00
Other cash expense	.05	.05	.04	.07	.04	.02	.03	.08	.03	.02	.04	.04
Depreciation	.09	.03	.06	.16	.12	.10	.12	.12	.15	.16	.15	.15
Interest	.05	.04	.04	.05	.05	.05	.05	.05	.06	.06	.06	.05
Total Cost	\$.37	\$.30	\$.35	\$.45	\$.46	\$.41	\$.45	\$.52	\$.48	\$.49	\$.48	\$.48
Hours worked, total	439	460	497	361	646	654	673	611	602	621	598	587
Drawbar:												
Seedbed preparation	175	183	215	129	250	264	251	236	238	258	235	222
Seeding and planting	8	17	4	2	16	20	18	10	19	20	18	18
Cultivating	52	42	37	76	81	73	87	82	64	59	74	60
Harvesting	99	121	88	89	131	122	152	119	144	160	132	141
Hauling manure	38	34	53	27	26	29	19	32	24	20	24	27
Miscellaneous	44	13	90	28	30	30	26	33	26	18	19	39
Total drawbar	416	410	487	351	534	538	553	512	515	535	502	507
Belt:												
Threshing, shredding, filling silo	14	24	10	10	68	66	75	64	59	53	69	57
Grinding feed and shelling corn	7	21	-	-	33	38	35	25	19	24	18	15
Miscellaneous	2	5	-	-	11	12	10	10	9	9	9	8
Total belt	23	50	10	10	112	116	120	99	87	86	96	80
Range in cost per hour from to		.18	.21	.22		.22	.25	.26		.37	.33	.38
Range in hours worked from to		.52	.56	.82		.56	.60	1.05		.58	.74	.71
		204	245	160		278	224	222		503	342	422
		766	764	602		1008	1000	978		680	804	964

* According to Nebraska tractor tests

**Per 10 hours of operation

Table 30. Cost of Operating Automobiles, Nicollet County

	Avg. of 3 years	1941	1942	1943		
		28 autos	32 autos	27 autos	5 autos low cost per mile	5 autos high cost per mile
Miles driven per automobile	8384	9809*	8304*	7040*	11019	5684
Miles per gallon of gas	14.7	14.3	15.2	14.6	16.0	13.5
Quarts of oil per mile	.006	.006	.006	.006	.008	.005
Costs per mile:						
Gas	1.3¢	1.3¢	1.2¢	1.3¢	1.1¢	1.7¢
Oil & lubricants	.1	.1	.1	.2	.2	.1
Cash expense	1.3	1.2	1.0	1.6	.7	2.4
Labor (servicing)	-	-	-	-	-	-
Depreciation	.9	.6	1.0	1.2	.7	1.9
Interest	.3	.3	.3	.4	.3	.5
TOTAL COST	3.9¢	3.5¢	3.6¢	4.7¢	3.0¢	6.6¢

*Average miles driven per farm was 10986 in 1941, 9842 in 1942, and 7920 in 1943. There were two cars on each of three farms in 1941 and 1943, and on each of five farms in 1942.

Table 31. Cost of Operating Trucks, Nicollet County

	Avg. of 3 years	1941	1942	1943		
		9 trucks	15 trucks	11 trucks	3 trucks low cost per mile	3 trucks high cost per mile
Miles driven per truck	3831	4600*	3278*	3617*	6281	933
Miles per gallon of gas	10.8	10.9	11.0	10.5	10.8	8.2
Quarts of oil per mile	.009	.009	.009	.009	.010	.008
Costs per mile:						
Gas	1.7¢	1.7¢	1.6¢	1.7¢	1.4¢	2.3¢
Oil & lubricants	.2	.1	.2	.2	.1	.2
Cash expense	3.1	2.1	2.3	4.8	1.0	10.4
Labor (servicing)	.1	.1	.3	.1	-	.8
Depreciation	1.0	1.0	.7	1.2	.6	2.0
Interest	.5	.5	.7	.4	.3	.7
TOTAL COST	6.5¢	5.5¢	5.8¢	8.4¢	3.4¢	16.4¢

*Average miles driven per farm was 5176 in 1941, 3512 in 1942, and 3979 in 1943. There were two trucks on one farm.

The costs and returns for colts and other horses is presented in Table 28. On the basis of the cost of \$35.55 per colt (not including breeding fees) in 1941, \$30.53 in 1942, and \$36.72 in 1943, the cost of raising a colt to working age of three years would be about one hundred dollars. The cost was higher than the farmers' estimate of the increase in value of the colts.

The cost per hour of tractor use is presented in Table 29. The tractors are classified into three groups according to drawbar horsepower. The small tractors can be rated as one plow or small two plow tractors, the medium as two plow, and the large as three plow.

The cost of operating automobiles and trucks are presented in Tables 30 and 31. All driving, farm and personal, is included in this summary.

Crop machinery costs averaged \$277 per farm, or \$1.85 per acre of crop land in 1941, \$341 and \$2.17 in 1942, and \$368 and \$2.35 in 1943. This represents an important item of cost in the operation of the farms. The details of these machinery costs are:

	1941	1942	1943
Depreciation.....	\$110	\$139	\$129
Purchased parts and repairs.....	59	79	103
Servicing & repairs with farmer's labor and equipment.....	28	29	45
Shelter.....	13	21	20
Interest.....	67	73	71
Total.....	\$277	\$341	\$368

These costs are equal to 20 per cent of the average investment in machinery in 1941, 23 per cent in 1942, and 26 per cent in 1943.

The utilization and source of the man labor on these farms are presented in Table 32. More than one-half of the labor was spent on livestock. Work on crops took less than half as much time as work on livestock. The work of the operator was the largest single source of labor on these farms. The amount of labor hired was largest on the most profitable farms because they were the larger farms.

Table 32. Utilization and Source of Man Labor, Nicollet County

	1941		1942		1943	
	Avg. of 3 years	farms	farms	farms	5 high profit farms	5 low profit farms
Labor used for:						
Utilization:	Hours	Hours	Hours	Hours	Hours	Hours
Buildings and fences	315	379	269	297	276	367
Machinery and equipment	121	122	118	124	142	119
Truck, tractor and auto	28	29	28	27	30	40
General farm overhead	157	135	161	176	225	164
Wood	146	160	141	135	93	182
Household and personal	45	46	37	51	45	110
Total miscellaneous labor	812	871	754	810	811	922
Horses	273	289	289	241	366	184
Dairy cows	2011	2048	1920	2066	3003	2439
All other cattle	607	608	610	602	1110	534
Sheep	16	12	18	17	-	6
Hogs	596	536	554	698	938	593
Poultry	501	485	452	567	387	1058
Grinding and mixing feed	74	84	69	68	106	54
Total livestock labor	4078	4062	3912	4259	5910	4868
Total crop labor	1826	1850	1925	1704	2185	1421
Total labor on farm	6716	6783	6591	6773	8906	7211
Labor off farm: paid	72	85	91	40	20	51
exchange & gratis	236	228	250	231	260	160
Total labor off farm	308	313	341	271	280	211
Total all labor	7024	7096	6932	7044	9186	7422
Source:						
Operator's labor	3137	2968	3112	3332	3787	3438
Other family labor	1789	2106	1773	1487	2560	1367
Hired labor	1862	1781	1797	2007	2599	2330
Exchange labor received	236	241	250	218	240	287

Table 33. Seasonal Distribution of Man Labor by Source, Nicollet County

Month	Hours per farm						Hours of work per day									
	Operator's labor		Other family labor		Hired labor		Exchange labor received		operator's only		Sunday					
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943				
Jan.	494	509	494	148	150	94	114	113	146	3	7.6	8.2	8.6	5.0	5.5	5.9
Feb.	445	445	468	136	132	91	102	92	129	2	7.7	8.2	9.2	5.0	5.5	6.2
March	528	510	551	153	148	107	126	114	160	1	8.4	8.4	9.6	5.4	5.4	6.3
April	583	562	613	176	168	131	143	118	172	4	9.2	9.8	10.9	5.2	5.3	5.9
May	643	572	609	210	174	139	148	128	167	2	9.7	9.5	10.6	4.8	4.5	5.3
June	606	583	614	190	174	129	157	154	201	4	9.4	9.3	10.1	4.1	4.3	4.9
July	772	689	686	222	208	150	207	188	217	17	10.0	9.8	10.5	4.2	4.2	5.0
Aug.	762	837	744	207	219	144	190	189	216	86	9.4	10.3	10.5	4.1	4.3	5.1
Sept.	633	548	666	185	153	148	155	122	166	43	9.1	8.8	10.1	3.8	4.2	4.8
Oct.	554	610	640	174	161	144	118	137	178	20	8.7	10.0	10.6	4.0	4.8	4.5
Nov.	550	569	485	158	164	110	164	112	126	5	8.2	10.3	8.6	4.6	5.4	5.2
Dec.	526	498	474	147	147	100	157	105	129	1	7.4	8.3	8.3	4.8	5.5	5.3
Total	7096	6932	7044	2106	1998	1487	1781	1572	2007	241	250	218	9.8	4.6	4.9	5.4

Table 34. Seasonal Distribution of Man Labor by Enterprise, Nicollet County

Month	Hours per farm						Paid						Exchange or gratis						
	Livestock		Crops		Misc.		Work off farm		Exchange		or gratis		1941		1942		1943		
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	
Jan.	494	509	493	402	388	415	43	39	33	44	72	41	2	4	2	3	3	6	2
Feb.	445	445	470	359	352	390	26	33	30	53	55	43	4	2	3	3	3	3	4
March	528	510	551	419	395	452	43	41	40	58	66	49	6	5	4	2	3	3	6
April	583	562	613	386	345	393	123	140	158	60	70	54	3	4	3	6	3	3	5
May	643	572	623	344	331	370	229	157	158	60	75	84	6	5	5	4	4	4	6
June	606	583	603	314	296	330	202	215	187	74	60	78	9	4	4	7	8	8	4
July	772	689	684	294	282	318	336	310	257	78	72	85	12	6	4	52	19	19	20
Aug.	762	837	745	284	263	310	330	267	272	59	48	67	18	24	2	71	135	94	94
Sept.	633	548	665	274	264	271	205	171	236	95	78	95	3	5	3	54	30	60	60
Oct.	554	610	640	289	291	284	164	225	237	79	63	92	9	10	6	13	21	21	21
Nov.	550	569	483	331	317	353	100	177	58	106	41	65	10	19	1	3	15	6	6
Dec.	526	498	474	366	388	373	44	50	38	105	54	57	3	3	3	10	3	3	3
Total	7096	6932	7044	4062	3912	4259	1850	1925	1704	871	754	810	83	91	80	223	250	231	231

The seasonal distribution of the man labor by source is presented in Table 33. The number of hours worked per month was lowest in January and February and highest in July and August. The number of hours worked per month by the operators were larger during the summer than during the winter. Since the number of operators remained the same throughout the year, this represents longer days during the summer. The number of hours worked by other family workers was also largest during the summer when work days are longer and children are not in school. More labor is hired during the summer, altho a large number of these farmers hired help throughout the year.

The wages paid hired labor averaged \$279 per farm in 1941, \$422 in 1942, and \$525 in 1943, and the value of board supplied to the hired labor averaged \$98, \$153, and \$171. With 1781 hours per farm worked by hired labor in 1941, the cost per hour of work was 15.7 cents for cash wages, 5.5 cents for board and 21.2 cents for the two combined. In 1942, the comparable figures were 1797 hours, 23.4 cents for cash wages, 8.5 cents for board and 32.0 cents total. In 1943 the comparable figures were 2007 hours, 26.2 cents for cash wages, 8.5 cents for board, and 34.7 cents total.